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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/812,583

03/30/2004

Robert S. Glass

RPAK-0009

3224

20558

7590

12/23/2005

KONNEKER & SMITH P. C.  
660 NORTH CENTRAL EXPRESSWAY  
SUITE 230  
PLANO, TX 75074

EXAMINER

COCKS, JOSIAH C

ART UNIT

PAPER NUMBER

3749

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/812,583	Applicant(s) GLASS ET AL.	
	Examiner Josiah Cocks	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.  
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-39 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Applicant's Response*

1. Receipt of applicant's response filed 10/31/2005 is acknowledged.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 3,756,202 to Keith ("Keith") in view of U.S. Patent No. 4,418,650 to Johnson et al. ("Johnson").

Keith discloses in the specification and Figures 1-4 an invention in the same field of endeavor as applicant's invention and similar to that described in applicant's claims 1-39. In particular, Keith shows a fuel-fired heating boiler (10) including a combustion chamber (15) and multiple pre-mixed gas-fired tubular burners (37) along the bottom of the chamber. The boiler includes a metal outer housing (12) with layers of suitable insulation material (13) (see col. 2, lines 35-36). The boiler also includes the recited heat exchanger structure with heat exchanger tubes (20) to heat fluid flowing therethrough.

In regard to the recitation of a control device for staggered firing of the burners (e.g. claim 35), Keith shows a control device (38) that would be capable of firing the burners as necessary to heat the fluid in the heat exchanger tubes (20).

Keith possibly does not disclose the particular material and arrangement of the insulation material on the burners in including a contacting compressible layer that is specifically a ceramic fiber insulation blanket and a relatively rigid insulation layer that is specifically fiberboard.

Johnson teaches an insulation arrangement that is considered to be pertinent to the problem applicant's invention addresses in providing suitable insulation. Johnson is therefore considered analogous art. In Johnson, the insulation layer is arranged in a boiler or similar combustion device (see col. 2, line 68) around a tubular structure (40) and includes a compressible ceramic fiber blanket (60) and a rigid fiberboard layer (56) (see col. 4, lines 33-66).

In regard to the limitations of the claims as to the particular arrangement of the layers with respect to the burners, when this insulation layer of Johnson is provided in the boiler the arrangement is possibly such that the fiberboard is located above the blanket. However, to have arranged these layers such that the ceramic blanket lies beneath the burner and above the

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fiberboard layer would be simply a matter of reversing the layers. As this insulation arrangement of Johnson desirably functions in the same manner and for the same purpose as applicant's invention in providing improved insulation in a boiler (see Johnson, col. 1, lines 7-11) this reversal of parts is not regarded as patentably distinct. See MPEP 2144.04(VI)(A).

Therefore, in regard to claims 1-39, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the boiler of Keith to incorporate the particular insulation structure and arrangement of Johnson for the desirable purpose of insulating components, such as burner components, provided in a boiler from the heat produced (see Johnson, col. 2, lines 31-44).

#### *Response to Arguments*

5. Applicant's arguments filed 10/31/2005 have been fully considered but they are not persuasive.

Applicant argues that Johnson teaches away from providing insulation for a burner portion because the tubes (40) of this reference are cooling tubes and the burner (32) is not shown as being insulated. The examiner does not agree. In Johnson, the burner (32) is arranged external of the combustion chamber and does not require insulation. However, the burners (37) of Keith, like applicant's burners, are arranged within the combustion chamber. While Figs. 1 and 2 of Keith do not appear to show a layer of insulation beneath the burners, the refractory lining (42) arranged around the burner (14) shown in Figs. 3 and 4 suggests to a person of ordinary skill in the art that burners provided in a combustion environment are insulated.

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Turning to Johnson, this reference shows an arrangement of tubes (40) located in a combustion chamber in a manner similar to both that shown in applicant's invention and Keith. Because of this location, these tubes are desirably insulated (see Johnson, col. 4, lines 50-55). Providing insulation to these tubes is considered analogous to the problem addressed by applicant in providing insulation to burner tubes. As noted above, the insulation proposed by applicant is not patentably distinguished from the insulation arrangement shown in Johnson.

Accordingly, the examiner considers that a person of ordinary skill in the art would desirably incorporate the insulation arrangement Johnson into the heating apparatus of Keith to desirably protect the burner components, in the form of the burner tubes (37), in a manner known in the art.

Applicant also argues that the Johnson reference does not show the burner structure as claimed. However, such burner structure has been identified in Keith. Johnson is relied upon merely for the arrangement of insulation of a heating apparatus component, which, as noted above, is considered to fully meet the insulation limitations presented in applicant's claims.

### *Conclusion*

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Josiah Cocks whose telephone number is (571) 272-4874. The examiner can normally be reached on weekdays from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg, can be reached at (571) 272-4828. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair>. Any questions on access to the Private PAIR system should be directed to the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

jcc  
December 15, 2005

  
JOSIAH COCKS  
PRIMARY EXAMINER  
ART UNIT 3749